APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,970	09/17/2003	Robert Bruce Nicholson	909B.0026.U1(US)	8604

29683	7590	05/30/2006

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EXAMINER
MCCARTHY, CHRISTOPHER S

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/666,970	NICHOLSON ET AL.
	Examiner	Art Unit	
	Christopher S. McCarthy	2113	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 September 2003*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-40* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *17 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
        1.☒ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/17/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-4, 6-12, 14-15, 17-20, 22-23, 25, 27-40 are rejected under 35 U.S.C. 102(b) as

being anticipated by Nolet U.S. Patent 6,138,249.

As per claim 1, Nolet teaches a server for improving predictive failure attributes of

distributed devices (column 7, lines 55-58; column 8, line 57), comprising: a receiver for

receiving, via a network, failure analysis data from individual ones of a plurality of distributed

devices (column 7, lines 55-60); where each device of said plurality of distributed devices

comprises a failure sensing function arranged for collecting failure analysis data of said

distributed device and a communications device coupled to said failure sensing function and

arranged for transmitting said failure analysis data to said network (column 5, lines 18-29;

column 8, lines 33-36; column 6, lines 48-67) wherein said server is arranged for analyzing said

failure analysis data and for providing failure information (column 8, lines 57-64).

As per claim 2, Nolet teaches the server of claim 1, wherein each of said plurality of

devices comprises an algorithm for managing an operation of a failure tolerant component and

wherein said failure information comprises an updated algorithm for providing improved

operation of said failure tolerant component (column 13, line 65 – column 14, lines 1, 7-9).

As per claim 3, Nolet teaches the server of claim 2, wherein said updated algorithm is

transmitted to said each device via said network (column 17, lines 50-54).

As per claim 4, Nolet teaches the server of claim 1, wherein said failure information is

used to improve at least one of design and manufacturing for future distributed devices (column

2, lines 3-8, wherein it is implicitly taught that these records would be used in future

testing/manufacturing).

As per claim 6, Nolet teaches the server of claim 3 wherein each of said plurality of

devices is coupled to said network via an intermediary software agent (column 8, lines 29-41).

As per claim 7, Nolet teaches the server of claim 6 wherein said intermediary software

agent is installed on a local server (column 9, lines 57-59).

As per claim 8, Nolet teaches the server of claim 7, wherein said local server comprises a

database arranged for storing said failure analysis data, said local server being arranged for

periodically uploading said failure analysis data to said server (column 8, lines 5-9).

As per claim 9, Nolet teaches a device comprising: a failure sensing function arranged for

collecting failure analysis data of said device; and, a communications device coupled to said

failure sensing function and arranged for transmitting said failure analysis data to a remote server

via a network, wherein said server is arranged for analyzing said failure analysis data received

from said device and from other devices and for providing failure information (column 5, lines

18-29; column 33-36; column 6, lines 48-67; column 8, lines 57-64).

As per claim 10, Nolet teaches the device of claim 9 wherein said device includes an algorithm for managing the operation of a failure tolerant component of said device and wherein said failure information includes an updated algorithm for providing improved operation of said failure tolerant component (column 13, line 65 – column 14, lines 1, 7-9).

As per claim 11, Nolet teaches the device of claim 10 wherein said updated algorithm is transmitted to said device via said network (column 17, lines 50-54).

As per claim 12, Nolet teaches the device of claim 9, wherein said failure information is used to improve at least one of design and manufacturing for future devices (column 2, lines 3-8, wherein it is implicitly taught that these records would be used in future testing/manufacturing).

As per claim 14, Nolet teaches the device of claim 11 wherein said device is coupled to said network via an intermediary software agent (column 8, lines 29-41).

As per claim 15, Nolet teaches the device of claim 14 wherein said intermediary software agent is installed on a local server (column 9, lines 57-59).

As per claim 17, Nolet teaches a method for performing predictive data analysis using a central server (column 10, line 67 – column 11, line 10; column 19, lines 6-29), said method comprising: collecting failure analysis data from at least failure tolerant components of a plurality of distributed devices (column 7, lines 55-60); receiving said failure analysis data from a network coupled to each device of said plurality of distributed devices (column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67); processing said failure analysis data; analyzing said failure analysis data received from said each device; and providing failure information therefrom (column 8, lines 57-64).

As per claim 18, Nolet teaches the method of claim 17, wherein said each device comprises an algorithm for managing the operation of the failure tolerant component and wherein said failure information comprises an updated algorithm for providing improved operation of said failure tolerant component (column 13, line 65 – column 14, lines 1, 7-9).

As per claim 19, Nolet teaches the method of claim 18 wherein said updated algorithm is transmitted to said device via said network (column 17, lines 50-54).

As per claim 20, Nolet teaches the method of claim 17, wherein said failure information is used to improve at least one of design and manufacturing for future devices (column 2, lines 3-8, wherein it is implicitly taught that these records would be used in future testing/manufacturing).

As per claim 22, Nolet teaches the method of claim 19 wherein said each device is coupled to said network via an intermediary software agent (column 8, lines 39-41).

As per claim 23, Nolet teaches the method of claim 22 wherein said intermediary software agent is installed on a local server (column 9, lines 57-59).

As per claim 25, Nolet teaches a server as in claim 1, wherein said communications device uses one of an Hypertext Transfer Protocol (HTTP), a Transmission Control Protocol/Internet Protocol (TCP/IP) and a Small Computer Systems Interface (SCSI) (column 11, lines 41-46).

As per claim 27, Nolet teaches a server as in claim 6, wherein said agent uses an interrogator (column 8, lines 40-46).

As per claim 28, Nolet teaches a server as in claim 6, wherein said agent uses a communications path other than that used for normal input and output (I/O) operations (column 11, lines 41-46).

As per claim 29, Nolet teaches a computer program comprising computer readable program code stored on a computer readable medium for performing failure analysis of a plurality of disk drives that comprise a part of at least one data storage system (column 8, line 65 – column 10, line 3), comprising first program code for collecting failure analysis data from individual ones of said disk drives and for transmitting said collected failure analysis data to a central server via a data communications network (column 7, lines 55-60; column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67).

As per claim 30, Nolet teaches a computer program as in claim 29, further comprising second program code, executed at said central server, for analyzing said failure analysis data received from said data communications network and deriving failure information therefrom (column 8, lines 57-64).

As per claim 31, Nolet teaches a computer program as in claim 30, where said failure information comprises revised disk drive operating program code that is downloaded to said plurality of disk drives via said data communications network (column 13, line 65 – column 14, lines 1, 7-9).

As per claim 32, Nolet teaches a computer program as in claim 29, where said first program code is executed by a local server that comprises a part of said data storage system, and where said collected failure analysis data is locally stored in said data storage system prior to

being transmitted to said central server (column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67).

As per claim 33, Nolet teaches a computer program as in claim 29, where said first program code is executed by a local server that comprises a part of said data storage system, and where said collected failure analysis data is transmitted to said central server as it is collected (column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67).

As per claim 34, Nolet teaches a computer program comprising computer readable program code stored on a computer readable medium for performing failure analysis of a plurality of disk drives that comprise a part of at least one data storage system, comprising first program code, executed by a server, for receiving, via a data communications network, failure analysis data from said at least one data storage system for analyzing said failure analysis data and for deriving failure information therefrom (column 7, lines 55-60; column 8, lines 57-64).

As per claim 35, Nolet teaches a computer program as in claim 34, further comprising second program code, executed by a component of said at least one data storage system, for collecting and transmitting said failure analysis data to said central server via said data communications network (column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67).

As per claim 36, Nolet teaches a computer program as in claim 34, where said failure information comprises revised disk drive operating program code that is downloaded to said plurality of disk drives via said data communications network (column 13, line 65 – column 14, lines 1, 7-9).

As per claim 37, Nolet teaches a computer program as in claim 35, where said second program code is executed by a local server that comprises a part of said data storage system, and

where said collected failure analysis data is locally stored in said data storage system prior to being transmitted to said central server (column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67).

As per claim 38, Nolet teaches a computer program as in claim 35, where said second program code is executed by a local server that comprises a part of said data storage system, and where said collected failure analysis data is transmitted to said central server as it is collected (column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67).

As per claim 39, Nolet teaches a system for collecting and processing failure information generated by a plurality of distributed data storage systems each comprising a plurality of data storage units, comprising a local server in individual ones of said data storage systems for receiving failure reports from individual ones of said data storage units, each said local server being coupled to the Internet (column 7, line 60) and transmitting failure report data thereto; and, also coupled to the Internet, a central server for receiving the failure report data and operating to process said received failure report data from said plurality of distributed data storage systems to derive failure data therefrom (column 7, lines 55-60; column 5, lines 18-29; column 8, lines 33-36; column 6, lines 48-67; column 8, lines 57-64).

As per claim 40, Nolet teaches a system as in claim 39, where said failure data comprises revised data storage unit operating program code, where said central server downloads said revised data storage unit operating program code to at least some of said data storage systems for use by at least some of said data storage units (column 13, line 65 – column 14, lines 1, 7-9).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 5, 13, 16, 21, 24, and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Nolet in view of Ballard U.S. Patent Application Publication

US2003/0088538.

As per claims 5, Nolet teaches the server of claim 1. Nolet does not explicitly teach

wherein said failure information provides an indication of operating lifespan of said plurality of

distributed devices. Ballard does teach wherein said failure information provides an indication

of operating lifespan of said plurality of distributed devices (paragraph 0013). It would have

been obvious to one of ordinary skill in the art at the time the invention was made to use the

failure information process of Ballard in the failure information process of Nolet. One of

ordinary skill in the art would have been motivated to use the failure information process of

Ballard in the failure information process of Nolet because Ballrd teaches the transmission of

remote device diagnostic information to a central location to assist the consumer (paragraphs

0010, 0013); and explicit desire of Nolet (column 5, lines 7-11).

As per claim 13, Nolet teaches the device of claim 9. Nolet does not explicitly teach

wherein said failure information provides an indication of operating lifespan of said device.

Ballard does teach wherein said failure information provides an indication of operating lifespan

of said plurality of distributed devices (paragraph 0013). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use the failure information process

of Ballard in the failure information process of Nolet. One of ordinary skill in the art would have

been motivated to use the failure information process of Ballard in the failure information

process of Nolet because Ballard teaches the transmission of remote device diagnostic

information to a central location to assist the consumer (paragraphs 0010, 0013); an explicit

desire of Nolet (column 5, lines 7-11).

As per claim 16, Nolet teaches the device of claim 15 wherein said local server includes a

database arranged for storing said failure analysis data from said device, said local server being

arranged for periodically uploading said failure analysis data to a server (column 8, lines 5-9).

Nolet does not explicitly teach wherein the server is a manufacturer's server. Ballard does teach

wherein the server is a manufacturer's server (paragraph 0011). It would have been obvious to

one of ordinary skill in the art at the time the invention was made to use the failure information

process of Ballard in the failure information process of Nolet. One of ordinary skill in the art

would have been motivated to use the failure information process of Ballard in the failure

information process of Nolet because Ballard teaches the transmission of remote device

diagnostic information to a central location to assist the consumer (paragraphs 0010, 0013); an

explicit desire of Nolet (column 5, lines 7-11).

As per claim 21, Nolet teaches the method of claim 17. Nolet does not explicitly teach

wherein said failure information provides an indication of operating lifespan of said device.

Ballard does teach wherein said failure information provides an indication of operating lifespan

of said plurality of distributed devices (paragraph 0013). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use the failure information process

of Ballard in the failure information process of Nolet. One of ordinary skill in the art would have

been motivated to use the failure information process of Ballard in the failure information

process of Nolet because Ballard teaches the transmission of remote device diagnostic

information to a central location to assist the consumer (paragraphs 0010, 0013); an explicit

desire of Nolet (column 5, lines 7-11).

As per claim 24, Nolet teaches he method of claim 23 wherein said local server includes

a database arranged for storing said failure analysis data, said local server being arranged for

periodically uploading said failure analysis data to a server (column 8, lines 5-9). Nolet does not

explicitly teach wherein the server is a manufacturer's server. Ballard does teach wherein the

server is a manufacturer's server (paragraph 0011). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use the failure information process

of Ballard in the failure information process of Nolet. One of ordinary skill in the art would have

been motivated to use the failure information process of Ballard in the failure information

process of Nolet because Ballard teaches the transmission of remote device diagnostic

information to a central location to assist the consumer (paragraphs 0010, 0013); an explicit

desire of Nolet (column 5, lines 7-11).

As per claim 26, Nolet teaches a server as in claim 1. Nolet does not teach wherein said

network comprises a firewall, and where said failure analysis data is transmitted using a

transmission protocol selected for being able to pass through said firewall. Ballard does teach

wherein said network comprises a firewall, and where said failure analysis data is transmitted

using a transmission protocol selected for being able to pass through said firewall.(paragraph

0011). It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use the failure information process of Ballard in the failure information process of Nolet. One of ordinary skill in the art would have been motivated to use the failure information process of Ballard in the failure information process of Nolet because Ballard teaches the transmission of remote device diagnostic information to a central location to assist the consumer (paragraphs 0010, 0013); an explicit desire of Nolet (column 5, lines 7-11).

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. McCarthy whose telephone number is (571)272-3651. The examiner can normally be reached on M-F, 9 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher S. McCarthy
Examiner
Art Unit 2113

csm